

IN THE CLAIMS:

Please CANCEL claim 1, without prejudice or disclaimer.

Please ADD new claims as indicated below:

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29. (NEW) An apparatus comprising:

a polarization device dividing an input light into first and second light having different

planes of polarization;

a phase shifter shifting the phase of the plane of polarization of one of the first and second lights, but not the other of the first and second lights; and

a polarization rotator variably rotating the plane of polarization of said one of the first and second lights after the plane of polarization is shifted by the phase shifter, and the plane of polarization of said other of the first and second light.

30. (NEW) An apparatus as in claim 29, wherein the phase shifter comprises a half wavelength plate.

31. (NEW) An apparatus as in claim 29, further comprising a filter filtering at least one of the first and second lights.

32. (NEW) An apparatus as in claim 29, wherein the polarization rotator is a Faraday rotator.

33. (NEW) An apparatus as in claim 30, wherein the polarization rotator is a Faraday rotator.

34. (NEW) An apparatus as in claim 31, wherein the polarization rotator is a Faraday rotator.

35. (NEW) An apparatus as in claim 29, wherein the polarization device is a birefringent crystal.

36. (NEW) An apparatus as in claim 29, wherein the apparatus is a gain equalizer.

37. (NEW) An apparatus as in claim 30, wherein the apparatus is a gain equalizer.

38. (NEW) An apparatus as in claim 32, wherein the apparatus is a gain equalizer.

39. (NEW) An apparatus as in claim 33, wherein the apparatus is a gain equalizer.

40. (NEW) An apparatus comprising:
a polarization device dividing an input light into first and second lights having different planes of polarization;
a polarization plane control device rotating the plane of polarization of one of the first and second lights, but not the other of the first and second lights; and
a polarization rotator variably rotating the plane of polarization of said one of the first and second lights after the plane of polarization is rotated by the polarization plane control device, and the plane of polarization of said other of the first and second lights.

41. (NEW) An apparatus as in claim 40, wherein the polarization plane control device is a half wavelength plate.

42. (NEW) An apparatus as in claim 40, wherein the polarization plane control device rotates the plane of polarization of said one of the first and second lights so that the planes of polarization of the first and second lights are the same.

43. (NEW) An apparatus as in claim 40, wherein the polarization rotator is a Faraday rotator.

44. (NEW) An apparatus as in claim 40, wherein the polarization device is a birefringent crystal.

45. (NEW) An apparatus as in claim 40, further comprising a filter filtering at least one of the first and second lights, the apparatus thereby operating as a gain equalizer.

46. (NEW) An apparatus comprising:
a birefringent crystal dividing an input light into first and second lights having different planes of polarization;
a half wavelength plate rotating the plane of polarization of one of the first and second lights, but not the other of the first and second lights, so that the planes of polarization of the first and second lights are the same; and
a Faraday rotator variably rotating the plane of polarization of said one of the first and second lights after the plane of polarization is rotated by the half wavelength plate, and the plane of polarization of said other of the first and second lights.

47. (NEW) An apparatus as in claim 46, wherein the apparatus is a gain equalizer.

48. (NEW) An apparatus as in claim 46, further comprising a filter filtering at least one of the first and second lights, the apparatus thereby operating as a gain equalizer.

49. (NEW) An apparatus comprising:

means for dividing an input light into first and second lights having different planes of polarization;

first rotating means for rotating the plane of polarization of one of the first and second lights, but not the other of the first and second lights; and

second rotating means for variably rotating the plane of polarization of said one of the first and second lights after the plane of polarization is rotated by the first rotating means, and the plane of polarization of said other of the first and second lights.

50. (NEW) An apparatus as in claim 49, further comprising:

filtering means for filtering at least one of the first and second lights so that the apparatus operates as a gain equalizer.